HENSEL PHELPS
Plan. Build. Manage.

Taxiway U&V Concrete

School Name:

HP ANSWER

Owner:

			Labor				Material		Equipment		
Description	Quantity		MH/Unit	Hours	MH Cost	Amount	Unit cost	Amount	Unit cost	Amount	Amount
1 Formwork											
Column Forms	40	each	8.000	320.0	70	22,400	1500	60,000			$82,400
12" Slab Edge Forms (anchor, approach, guideway)	4,080	lf									
Anchor	300	lf	0.225	67.5	70	4,725	7	2,100			$6,825
Approach	180	lf	0.225	40.5	70	2,835	7	1,260			$4,095
Guideway	3,600	lf	0.225	810.0	70	56,700	7	25,200			$81,900
6" Slab Edge Forms (Topping)	1,108	lf	0.225	249.3	70	17,451	5	5,540			$22,991
5'6" Beam Form	120	lf	0.190	22.8	70	1,596	10	1,200			$2,796
3'6" Beam Form	120	lf	0.170	20.4	70	1,428	10	1,200			$2,628
Abutment Wall Forms	21,874	sf	0.200	4374.8	70	306,236	5	109,370			$415,606
Retaining Wall Forms	51,994	sf									
W5	4,380	sf	0.150	657.0	70	45,990	5	21,900			$67,890
W6	4,652	sf	0.150	697.8	70	48,846	5	23,260			$72,106
W7	2,734	sf	0.150	410.1	70	28,707	5	13,670			$42,377
W8	2,734	sf	0.150	410.1	70	28,707	5	13,670			$42,377
W9	5,809	sf	0.150	871.4	70	60,995	5	29,045			$90,040
W11	4,297	sf	0.150	644.6	70	45,119	5	21,485			$66,604
W13	6,148	sf	0.150	922.2	70	64,554	5	30,740			$95,294
W17	21,240	sf	0.150	3186.0	70	223,020	5	106,200			$329,220
Foundation Bulkhead	1,659	sf									
W5	91	sf	0.263	23.9	70	1,675	6	546			$2,221
W6	88	sf	0.263	23.1	70	1,620	6	528			$2,148
W7	123	sf	0.263	32.3	70	2,264	6	738			$3,002
W8	123	sf	0.263	32.3	70	2,264	6	738			$3,002
W9	233	sf	0.263	61.3	70	4,290	6	1,398			$5,688
W11	60	sf	0.263	15.8	70	1,105	6	360			$1,465
W13	88	sf	0.263	23.1	70	1,620	6	528			$2,148
W17	296	sf	0.263	77.8	70	5,449	6	1,776			$7,225
Abutment Wall	57	sf	1.263	72.0	70	5,039	6	342			$5,381
On-Grade Guideway Bulkhead	392	sf	0.150	58.8	70	4,116	6	2,352			$6,468
Columns	108	sf	2.263	244.4	70	17,108	6	648			$17,756
Pier Cap Forms	3,913	sf	0.300	1174.0	70	82,181	5	19,567			$101,747
Abutment Forms	1,806	sf	0.300	541.9	70	37,935	5	9,032			$46,967
12" Concrete Curb Form	6,736	lf	0.070	471.5	70	33,006	7	47,152			$80,158
Control and Expansion Joint - Slab	392	lf	0.060	23.5	70	1,646	5	1,960			$3,606
Control and Expansion Joint - Walls	869	lf	0.060	52.1	70	3,650	5	4,345			$7,995
Small Tools	16,580	mh							2	33,161	$33,161
Formwork				**16,633**		**$1,164,278**		**$557,850**		**$33,161**	**$1,755,288**
Formwork Subtotal											**$1,755,288**
2 Place & Finish Concrete											
Place Abutments	81	cy	1.200	96.7	58	5,608	150	12,087	7.5	604	$18,299
Place Abutment Walls	1,215	cy	0.700	850.5	58	49,329	150	182,250	7.5	9,113	$240,692
Place Anchor and Approach Slab	173	cy	1.200	208.0	58	12,064	150	26,000	7.5	1,300	$39,364
Place Columns	202	cy	1.200	242.4	58	14,059	150	30,300	7.5	1,515	$45,874
Place Pier Caps	249	cy	1.200	298.7	58	17,323	150	37,333	7.5	1,867	$56,523
Place Foundations	1,342	cy									
W5	121	cy	0.700	84.7	58	4,913	150	18,150	7.5	908	$23,970
W6	117	cy	0.700	81.9	58	4,750	150	17,550	7.5	878	$23,178
W7	131	cy	0.700	91.7	58	5,319	150	19,650	7.5	983	$25,951
W8	131	cy	0.700	91.7	58	5,319	150	19,650	7.5	983	$25,951
W9	97	cy	0.700	67.9	58	3,938	150	14,550	7.5	728	$19,216
W11	129	cy	0.700	90.3	58	5,237	150	19,350	7.5	968	$25,555
W13	119	cy	0.700	83.3	58	4,831	150	17,850	7.5	893	$23,574
W17	497	cy	0.700	347.9	58	20,178	150	74,550	7.5	3,728	$98,456
Abutment Walls	1,025	cy	0.700	717.5	58	41,615	150	153,750	7.5	7,688	$203,053
Coulmn Foundations	482	cy	0.700	337.4	58	19,569	150	72,300	7.5	3,615	$95,484
Place On-Grade Guideway	1,853	cy	0.700	1297.0	58	75,229	152	281,645	7.5	13,897	$370,770
Place Retaining Wall	1,302	cy									
W5	136	cy	0.700	95.2	58	5,522	150	20,400	7.5	1,020	$26,942
W6	86	cy	0.700	60.2	58	3,492	150	12,900	7.5	645	$17,037
W7	65	cy	0.700	45.5	58	2,639	150	9,750	7.5	488	$12,877
W8	65	cy	0.700	45.5	58	2,639	150	9,750	7.5	488	$12,877
W9	129	cy	0.700	90.3	58	5,237	150	19,350	7.5	968	$25,555
W11	201	cy	0.700	140.7	58	8,161	150	30,150	7.5	1,508	$39,818
W13	194	cy	0.700	135.8	58	7,876	150	29,100	7.5	1,455	$38,431
W17	426	cy	0.700	298.2	58	17,296	150	63,900	7.5	3,195	$84,391
Place Topping Slab	305	cy	0.375	114.5	58	6,642	150	45,806	7.5	2,290	$54,738
Place Curb	125	cy	0.375	46.8	58	2,713	150	18,711	7.5	936	$22,407
Finish Top of Wall Retaining Wall	2,712	sf									
W5	240	sf	0.020	4.8	69	331					$331
W6	240	sf	0.020	4.8	69	331					$331
W7	184	sf	0.020	3.7	69	254					$254
W8	184	sf	0.020	3.7	69	254					$254
W9	266	sf	0.020	5.3	69	367					$367
W11	87	sf	0.020	1.7	69	120					$120
W13	278	sf	0.020	5.6	69	384					$384
W17	1,233	sf	0.020	24.7	69	1,702					$1,702
Finish Slab	65,993	sf									
Topping	16,168	sf	0.016	259	69	17,849			10	2,587	$20,436
Approach	900	sf	0.016	14	69	994			10	144	$1,138
Anchor	2,700	sf	0.016	43	69	2,981			10	432	$3,413
On-Grade Guideway	46,225	sf	0.016	740	69	51,032			10	7,396	$58,428
Protect & Cure	68,705	sf	0.002	137.4	58	7,970	0.05	3,435	0.03	2,061	$13,466
Concrete Pumping	10,998	cy							15.5	170,466	$170,466
Small Tools	7,308	mh							5	36,539	$36,539
Total Place & Finish Concrete				**7,308**		**$436,066**		**$1,260,217**		**$282,279**	**$1,978,562**
Place & Finish Concrete Subtotal											**$1,978,562**
3 Reinforcing Steel											
On Grade Guideway - Slab	233	tons	30.000	6979.0	58	404,785	2200	511,797			$916,581
On Grade Guideway - Curb	7	tons	30.000	207.1	58	12,014	2200	15,190			$27,203
Retaining Wall - W5	17	tons	30.000	512.2	58	29,710	2200	37,565			$67,275
Retaining Wall - W6	11	tons	30.000	323.9	58	18,787	2200	23,754			$42,541
Retaining Wall - W7	8	tons	30.000	244.8	58	14,200	2200	17,954			$32,153
Retaining Wall - W8	8	tons	30.000	244.8	58	14,200	2200	17,954			$32,153
Retaining Wall - W9	16	tons	30.000	485.9	58	28,181	2200	35,631			$63,812
Retaining Wall - W11	25	tons	30.000	757.1	58	43,910	2200	55,518			$99,428
Retaining Wall - W13	24	tons	30.000	730.7	58	42,381	2200	53,585			$95,965
Retaining Wall - W17	53	tons	30.000	1604.5	58	93,063	2200	117,665			$210,728
Columns	25	tons	30.000	760.8	58	44,128	2200	55,794			$99,923
Abutment Walls	129	tons	30.000	3860.7	58	223,918	2200	283,115			$507,034
Pier Caps	31	tons	30.000	937.4	58	54,372	2200	68,746			$123,117
Topping Slab	38	tons	30.000	1150.2	58	66,710	2200	84,346			$151,057
Foundations	168	tons	30.000	5054.6	58	293,169	2200	370,674			$663,843
Small Tools	23,854	hours							2	47,708	$47,708
Reinforcing Steel				**23,854**		**$1,383,527**		**$455,020**		**$47,708**	$1,886,255
Reinforcing Steel Subtotal											**$1,886,255**
Subtotal											**$5,620,106**
Insurance and Bond Fees at 5%											**$281,005**
HP Markup			8%								**$472,089**
General Conditions											**$637,800**
HP Estimate Total											**$7,011,000**